

L5 ANSWER 34 OF 79 CAPLUS COPYRIGHT 2010 ACS on STN

AN 1992:40132 CAPLUS

DN 116:40132

OREF 116:6861a,6864a

TI Feeds enriched with valine, leucine, and isoleucine for body fat reduction

IN Horikawa, Hiroshi; Ishida, Masashi

PA Itoh, C. Feed Mills Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 03219838	A	19910927	JP 1989-314203	19891205
PRAI JP 1989-287395	A1	19891106		

AB Feeds, useful for lean meat prodn., are enriched with 0.01-3.00 wt.% (each) valine, leucine, and isoleucine as amino acid components. Broiler chickens were fed with feeds enriched with 0.4 wt.% (each) valine, leucine, and isoleucine for 25 days to show 2770 g body wt. and 80 g belly fat wt., vs. 2786 g and 98 g, resp., for control.

L5 ANSWER 56 OF 79 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation  
on

STN

DUPLICATE 27

AN 1979:149981 BIOSIS

DN PREV197967029981; BA67:29981

TI THE BRANCHED CHAIN AMINO-ACID ANTAGONISM IN CHICKS.

AU SMITH T K [Reprint author]; AUSTIC R E

CS DEP NUTR, COLL BIOL SCI, UNIV GUELPH, GUELPH, ONT N1G 2W1, CAN

SO Journal of Nutrition, (1978) Vol. 108, No. 7, pp. 1180-1191.

CODEN: JONUAI. ISSN: 0022-3166.

DT Article

FS BA

LA ENGLISH

AB The effects of dietary supplements of branched-chain amino acids on growth, food consumption and metabolism in chicks were investigated. When an adequate diet contained 1.20, 1.60, 2.25, 3.75 or 5.00% leucine, increasing leucine content caused reduced food consumption and weight gains, coupled with impaired efficiency of food utilization. When the diet deficient in branched-chain amino acids contained 0.98, 1.46, 2.25, 3.75 or 5.00% leucine, increasing leucine resulted in increased food consumption and reduced efficiency of food utilization when levels of leucine up to 3.75% were fed. Excess leucine depressed plasma concentrations of isoleucine and valine.

Excesses of isoleucine or valine caused smaller depressions of concentrations of the other 2 branched-chain amino acids. All these effects were seen during the first 8 days of experiment, after which they diminished or disappeared. Muscle branched-chain amino acid aminotransferase (BCAT) (L-leucine:2-oxoglutarate aminotransferase, EC 2.6.1.6) activity was increased in chicks fed excess leucine but not in those fed excess isoleucine or valine. Hepatic .alpha.-ketoisocaproic dehydrogenase (KADH) (2-oxoisocaproate: lipoate oxidoreductase, EC 1.2.4.3) activity and muscle polyribosomal aggregation were unaffected by diet. When chicks were fed diets containing either 0.98 or 2.25% leucine, production of  $^{14}\text{CO}_2$  from [1- $^{14}\text{C}$ ]isoleucine and [1- $^{14}\text{C}$ ]valine was increased in chicks fed the higher level of leucine. The increase was small in both cases, representing approximately 2% of consumed isoleucine and valine. Increased production of  $^{14}\text{CO}_2$  was observed within 12 h of feeding excess leucine; however, BCAT increased only after 2 to 4 days. No differences were seen in excreted  $^{14}\text{C}$  or in the relative distribution of  $^{14}\text{C}$  along the small intestine. Apparently the chick is able to adapt in part to excesses of dietary leucine, and the branched-chain amino acid antagonism may involve increased catabolism of the limiting branched-chain amino acids.

L5 ANSWER 52 OF 79 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation  
on

STN

DUPLICATE 26

AN 1982:291626 BIOSIS

DN PREV198274064106; BA74:64106

TI INVOLVEMENT OF FOOD INTAKE AND AMINO-ACID CATABOLISM IN  
THE BRANCHED CHAIN

AMINO-ACID ANTAGONISM IN CHICKS.

AU CALVERT C C [Reprint author]; KLASING K C; AUSTIC R E

CS DIV NUTR SCI, CORNELL UNIV, ITHACA, NY 14853, USA

SO Journal of Nutrition, (1982) Vol. 112, No. 4, pp. 627-635.

CODEN: JONUAI. ISSN: 0022-3166.

DT Article

FS BA

LA ENGLISH

AB The role of food intake and branched-chain amino acid (BCAA) catabolism in the branched-chain amino acid antagonism was investigated. A diet containing crystalline amino acids as the sole source of amino acids was formulated to contain adequate levels of all required nutrients. The basal diet contained 0.60% isoleucine, 0.82% valine and 1.2% leucine. Increasing dietary leucine to 5.0% resulted in reduced food consumption, weight gain and efficiency of food use. These effects were prevented by increasing dietary isoleucine and valine to 0.80 and 1.07%, respectively.

When L-[1-14C]isoleucine or L[1-14C]valine were included in the diet, the amount of 14CO<sub>2</sub> exhaled was increased within 24 h of feeding the 5% leucine diet. The excretion of 14C was unaffected by leucine. It was determined by force feeding that .apprx. 70% of the reduced growth rate in chicks fed the leucine-supplemented diet ad lib could be accounted for by reduced food intake. A portion of the growth depression may be due to increased BCAA catabolism, limiting the availability of valine and isoleucine for growth.

=> d his

(FILE 'HOME' ENTERED AT 14:29:56 ON 16 MAY 2010)

FILE 'AGRICOLA, BIOSIS, BIOTECHNO, CABA, CAPLUS, DISSABS, FOMAD, FROSTI,

FSTA, NTIS, PASCAL, PROMT, SCISEARCH, TOXCENTER' ENTERED AT 14:30:18 ON

16 MAY 2010

L1 1791 S (REDUC### OR LACK### OR LOWER###) AND LEUCINE AND (CHICK### O

L2 5 S (REDUC### OR LACK### OR LOWER###) (W) LEUCINE AND (CHICK###

L3 5 DUP REM L2 (0 DUPLICATES REMOVED)

L4 152 S (REDUC### OR LACK### OR LOWER###) (10W) LEUCINE AND (CHICK###

L5 79 DUP REM L4 (73 DUPLICATES REMOVED)

L6 1104 S GLUTAMIC AND LEUCINE AND MEAT

L7 52 S L6 AND (CHICK#### OR POULTRY OR ANIMAL) (3W) (DIET#### OR FE

L8 46 DUP REM L7 (6 DUPLICATES REMOVED)